

**SOUTHWEST FISHERIES SCIENCE CENTER**  
**FIRST QUARTER REPORT-FY 2002**  
For the Period October 1 - December 31, 2001

**Submitted By:** John Hunter, Director, Fisheries Resources Division.

**Title of Accomplishment or Milestone:** Stock assessment for Pacific sardine.

**Current Status of Accomplishment or Milestone:** The stock assessment has been completed and has been reviewed by the PFMCC CPS Management Team, the CPS Advisory Subpanel, and the Council's Scientific and Statistical Committee. The Council adopted a harvest guideline of 118,442 mt for the 2002 fishing season based on the results of the assessment.

**Background:** The assessment results are applicable to the Pacific sardine (*Sardinops sagax*) population off the North America Pacific coast from Baja California, Mexico to British Columbia, Canada. The majority of the fishery-independent and fishery-dependent data were collected off northern Mexico and southern California. However, as was done in past assessments, assumptions regarding sample coverage and sardine biology were used to make scientific inferences about the entire population, e.g., to provide fishery managers coastwide estimates of stock biomass, mortality rates, and harvest guidelines. Sardine landings in 2001 for the directed fisheries off California, U.S. and Ensenada, Mexico declined to 86,000 mt. This represents a 22% decline from the 2000 landings, and is due primarily to a drop in landings in Ensenada from the high levels reached in 1999-2000. California landings in 2001 (51,000 mt) declined approximately 10% from the 1999-2000 level. Currently, the U.S. fishery is regulated using a quota (harvest guideline) management scheme and the Mexico fishery (Ensenada landings) is essentially unregulated. As has been the case in recent years, landings from the U.S. Pacific sardine fishery (California, Oregon, and Washington) are well below the harvest guideline recommend for 2001.

**Purpose of Activity:** The PFMCC's FMP for Pacific Coast Coastal Pelagic Species requires an annual stock assessment for Pacific sardine for the purposes of (i) assessing the biological condition of the stock and (ii) establishing harvest guidelines for the Pacific sardine fishery.

**Description of Accomplishment and Significant Results:** Estimated stock biomass (age 1+ fish on July 1, 2001) from the assessment conducted this year indicated the sardine population has remained at a relatively high abundance level, with a bias-corrected estimate of nearly 1.1 million mt. The population had been increasing at a rate of approximately 30 percent per year since the mid 1980s, but the rate of increase now appears to be more moderate. Estimated recruitment (age-0 fish on July 1, 2001), albeit more variable than stock biomass statistics, has declined in the last two years but still remains at a relatively high level (5.5 billion recruits). The latest sardine stock assessment document is available at:  
<http://swfsc.nmfs.noaa.gov/frd/Coastal%Pelagics/Sardine/sardine1.htm>

**Significance of Accomplishment:** NMFS and the SWFSC, in particular, has the mandate to provide scientific support for the PFMCC in implementing its Fishery Management Plan for

Pacific Coast Coastal Pelagic Species. This research effort -- accomplished in cooperation with the California Department of Fish & Game (CDFG) -- represents an important part of that mandate, and fosters vital scientific collaboration with CDFG scientists.

**Problems:** None

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